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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,040	06/14/2001	Eiichi Hatae	2001_0749A	5949

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WASHINGTON, DC 20006-1021

EXAMINER

FLETCHER, JAMES A

ART UNIT	PAPER NUMBER
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2621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/880,040

Applicant(s)

HATAE ET AL.

Examiner

James A. Fletcher

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7, 9, 10, 13, 21, 23, 24 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 9-10, 13, 21, 23-24, and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 7, 9, 10, 21, 23, and 28-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7, 9-10, 13, 21, 23-24, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al (WO92-22983), and further in view of Kikuchi et al (6,577,812), and further in view of Kawai (4,959,735).

Regarding claims 7 and 21, Browne et al disclose a remaining recordable time calculation apparatus for calculating remaining recordable time of a recording medium (Fig 3, item 305 "Auto Recording Storage Allocation" shows a calculation of remaining recordable time), the recording medium containing one or more video streams (Page 3, lines 5-7 "storage means...for simultaneously storing the plurality of received transmission signals") and corresponding management information (Page 25, lines 13-14 "titles or other information for programs are broadcast with the program"), and the one or more video streams being compressed when recorded on the recording medium (Page 11, lines 22-23 "It is desirable to permit direct storage of pre-compressed data") comprising:

- a remaining recordable time calculation apparatus further comprising display means and unit for displaying the remaining recordable time calculated by the time calculation means, wherein the display means displays a ratio of the remaining recordable time calculated by the time calculation means, to the total time period for which recording is possible in a graphical form (Fig 3, item 305a is a graphical representation of the ratio of the available storage and the amount already recorded);
- instruction receiving means and unit for receiving a user selection of a video stream out of the one or more video streams (Page 8, lines 18-21 “a user can select a program for storage listing and retention after viewing the program, or the choice can be made while the program is being viewed”), and
- running time display means for displaying the remaining recordable time calculated by the time calculation means, wherein the display means displays a ratio of the running time of the selected video stream to the total time period for which recording is possible in a graphical form (Fig 3, item 305a is a graphical representation of the ratio of the available storage and the amount already recorded, which is the recited “running time”).
- wherein a display screen displayed by the remaining recordable time display means and a display screen displayed by the running time display means are switchable (Page 21, lines 5-17 “The display mode section 304 allows outputs 112a-112c to display multiple programs on one screen and also to display identical programs in different ways. If window option 304a is selected, the

user can cause the output of selected ones of the outputs 112a-112c to be windowed. That is, the user can send a signal from one of the outputs 112a-11h to a receiver such that it appears as a window in another signal output to that receiver. Alternatively, the user can choose tiled windows. Where the output appears as a series of equally sized windows, by selection of the tile window option 304b. Finally the user can simply choose the full screen mode with the full screen option 304c”).

Browne et al are silent on the details of their determination of remaining recording time.

Kikuchi et al teach a remaining recordable time calculation apparatus comprising:

- management data read means and unit for reading, from the recording medium, running time of the one or more video streams (Col 25, lines 36-39 “The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames”);
- total time holding means and unit for holding a total time period for which recording is possible on the recording medium, (Col 21, lines 1-3 “in case of single-sided DVD-RAM disc having a storage amount of 2.6 GB, information indicating 2.6 GB is written at the byte position ‘17 to 20’ in FIG. 6”), wherein the total time period for which recording is possible is obtained by first subtracting an estimate error value from a capacity of the recording medium, and then by dividing the subtraction result by a standard bit rate (Col 61, lines

54-58 “as a result of various simulations of timer recording, if it is determined that remaining time calculated value T_r includes an error of a maximum of 10%, the amount 10% of the remaining amount can be set as the auxiliary amount” and Col 45, lines 28-31 “when this remaining amount is divided by the average recording rate, the remaining time...of disc 10 can be determined”),

- wherein the estimate error value estimates at least one of an estimate error occurring during compression of a video stream, and a size of an unrecordable area inherent in the recording medium (Col 61, lines 54-58 “as a result of various simulations of timer recording, if it is determined that remaining time calculated value T_r includes an error of a maximum of 10%, the amount 10% of the remaining amount can be set as the auxiliary amount”), and the standard bit rate is a bit rate used in compressing a video stream to be recorded on the recording medium (Col 45, lines 28-31 “when this remaining amount is divided by the average recording rate, the remaining time...of disc 10 can be determined”); and
- time calculation means and unit for calculating the remaining recordable time by subtracting the running time of the one or more video streams read by management data read means and unit from the total time period for which recording is possible (Col 45, lines 23-28 “By subtracting the recorded data amount...from the free space...of disc 10, the remaining amount...of disc 10 can be determined”).

As taught by Kikuchi et al, calculating available recording time on a medium by determining a potential error rate, subtracting the potential error from the total available storage area, also subtracting the already used area from the total area to provide a recordable area, and finally dividing that area by a potential rate that it will be used, provides the user with a safe prediction of available recording time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Kikuchi discloses calculation of a standard bit rate by observing the incoming data rate over a period of time.

Kawai teaches the storage of a standard bit rate to be used in calculating the remaining time of an input audio signal (Col 6, lines 44-47 "The audio signal recording time counter is preset at a counted value corresponding to the compression rate set at the steps #16 to #20-2").

As taught by Kawai, the use of a preset rate in the computation of available recording time is well-known, removing computational burden from the processor, resulting in a savings in power and complexity, and therefore, in cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination in order to provide a preset bit rate for use in calculating remaining available recording time.

Regarding claims 9 and 23, Browne et al disclose a remaining recordable time calculation apparatus wherein the running time display means displays a ratio of the

running time of the selected video stream to the total time period for which recording is possible in a graphical form (Fig 3, item 305a is a graphical representation of the ratio of the available storage and the amount already recorded, which is the recited "running time").

Regarding claims 10 and 24, Browne et al disclose a remaining recordable time calculation apparatus further comprising stream decoding means and unit for decoding a compressed data of the video stream (Page 14, lines 10-12 "one of the decompressors 106a-106d decompresses a selected stored program"), wherein the running time display means further displays an image of the video stream decoded by the stream decoding means (Page 21, lines 5-17 "The display mode section 304 allows outputs 112a-112c to display multiple programs on one screen and also to display identical programs in different ways. If window option 304a is selected, the user can cause the output of selected ones of the outputs 112a-112c to be windowed. That is, the user can send a signal from one of the outputs 112a-11h to a receiver such that it appears as a window in another signal output to that receiver. Alternatively, the user can choose tiled windows. Where the output appears as a series of equally sized windows, by selection of the tile window option 304b. Finally the user can simply choose the full screen mode with the full screen option 304c").

Regarding claim 12 and 26, Browne et al are silent on the calculation of remaining time process.

Kikuchi et al teach a remaining recordable time calculation apparatus comprising a management data write means and unit for writing running time of a video stream to

be added and a corresponding compression bit rate to the recording medium as the management data (Col 25, lines 36-39 "The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames" and Col 16, line 53 "system header 111 describes a bit rate and stream ID"),

- wherein the management data read means reads out the running time of the video stream and the corresponding compression bit rate written by the management data write means (Col 3, lines 33-38 "calculating the remaining recordable time on the medium on the basis of the free space and variable recording rate; and...displaying the variable recording rate and the remaining recordable time at that variable recording rate on the basis of the result of the remaining recordable time calculation process").

As taught by Kikuchi et al, calculating available recording time on a medium by determining a potential error rate, subtracting the potential error from the total available storage area, also subtracting the already used area from the total area to provide a recordable area, and finally dividing that area by a potential rate that it will be used, provides the user with a safe prediction of available recording time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Regarding claim 13 and 27, Browne et al are silent on the calculation of the remaining recording time.

Kikuchi et al teach a remaining recordable time calculation apparatus wherein the running time of the video stream is included in management information generated in accordance with a recorded standard of the recording medium (Col 25, lines 36-39 "The program chain playback time...represents the total playback time of programs in that program chain in hours, minutes, seconds, and the number of video frames").

As taught by Kikuchi et al, providing a running time of a program being recorded on a finite medium, along with an available remaining recording time estimate, provides the user with information that can be used to determine if a recording will fit on the medium.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Browne et al in order to use the calculations of Kikuchi et al to determine available recording time.

Regarding claims 28 and 29, Browne discloses a remaining recordable time calculation apparatus comprising display location obtaining means for obtaining a display location of the screen displayed by the remaining recordable time display means (Page 21, lines 26-29 "The overlapping windows selected by window option 304a and the tiled windows selected by tile window option 304b can preferably be dynamically moved with the aid of a menu bar").

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF
13 December 2006


James J. Groody
Supervisory Patent Examiner
Art Unit 2621